



Chapter

2

Projections and Waste Quantities

Description of Fairfax County's Current Solid Waste Stream and Projections for the Next 20 Years

This chapter describes Fairfax County's current waste stream characteristics, estimates of waste quantities and material types, and projections of the waste stream over the next 20 years. It also examines the pertinent demographic data, including population, urban concentration, households, and employment, and county characteristics, including climate, geology, and traffic conditions, that may influence waste collection, waste disposal, and type of materials disposed of over the next 20 years.

SWMP projections include the Cities of Fairfax and Falls Church, and the Towns of Vienna, Clifton, and Herndon.

For the SWMP, demographic data include the Cities of Fairfax and Falls Church, and the Towns of Vienna, Clifton, and Herndon. Although these cities and towns are not part of the county's planning district, the county will continue to handle their wastes over the SWMP planning period. Therefore, the county considers them within its "service area."

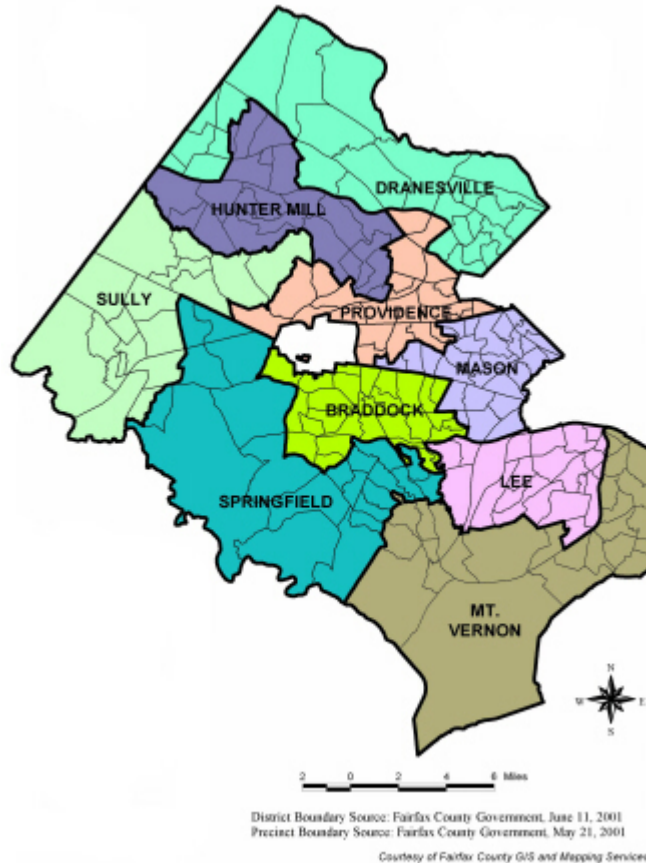
Description of Plan Area

County Characteristics

The County of Fairfax comprises approximately 395 square miles (252,828 acres) in northern Virginia and spans roughly 25 miles from north to south as well as east to west. The county borders the State of Maryland to the north, Arlington County and the City of Alexandria to the east, Loudoun County to the west, and Prince William County to the south. The Occoquan River defines the southern border and the Potomac River the border on the north and east. The county includes the Towns of Vienna, Clifton, and Herndon. Near the center of the county is the City of Fairfax; the City of Falls Church is located on the eastern border with Arlington County.

Fairfax County is further subdivided into nine magisterial districts: Braddock, Dranesville, Hunter Mill, Lee, Mason, Mount Vernon, Providence, Springfield, and Sully. Figure 2-1 shows their locations.

Figure 2-1. Map of Fairfax County Magisterial Districts



Geographic Conditions

Located in both the Piedmont and Coastal Plain physiographic provinces, the county is characterized by gently rolling terrain. The western quarter of the county (up to the border of Loudoun County) lies in the Lowland Province of the Piedmont; the central area lies in the Piedmont's Upland Province. The eastern part of the county is located in the Coastal Plain.

The topography of the region is tied to the physiographic provinces. In general, the upland areas of the county are gently rolling and are bounded by steep bluffs and incised drainages. Wetlands are frequently found adjacent to the bluffs in the floodplains of the rivers and streams of the county. Large tidal and non-tidal wetlands typically are located in the southeastern portion of the county. The highest natural elevation in the county is Tysons Corner at 573 feet above sea level. The lowest point is at the confluence of the Occoquan and Potomac Rivers in the southeastern part of the county.

The soils present in the county are also related to the physiographic provinces. The soils in the Piedmont are shallow and, during periods of low rainfall, are susceptible to drought conditions. The soils of the Coastal Plain are variable but tend to be gravelly with low permeability.

The climate of the region is characterized by four distinct seasons, with spring and fall typically cool and moist. Summers tend to be hot and humid, with an average temperature of 82°F. Winters are characterized by mild weather, with temperatures near freezing, punctuated with periods of cold temperatures and heavy snowfall. The normal annual precipitation for the area is 39 inches. The average growing season is from April 20 to October 20.

The vegetation of the region is characterized by a blend of deciduous trees, predominantly of the oak family, and conifers, primarily pines. The vegetation in the area ranges from small herbaceous plants and wildflowers to shrubs and trees.

Northern Virginia is the third worst congested traffic area in the nation. Traffic is forecasted to worsen over the next 20 years.

Transportation Conditions

Northern Virginia, including Fairfax County, is the third worst congested traffic area in the nation, in terms of percentage of congested roadways and time spent in traffic.¹ Of the lane miles in the region, 44 percent are rated “F” or worst for congestion. Northern Virginia residents spend an average of 46 hours a year stuck in traffic.



The impact of increased truck traffic and congestion will need to be addressed in selecting solid waste management alternatives.

Traffic conditions factor significantly into the development of the county's SWMP. As the traffic conditions worsen, the time and cost of collection and disposal methods will increase. The county will need to address the impact of increased truck traffic and congestion in selecting future solid waste management (SWM) alternatives.

The forecast over the next 20 years is that traffic conditions will worsen. By 2025, the county expects vehicle miles traveled to increase 41 percent, while the planned lane miles will increase by only 13 percent.

Figure 2-2 shows the traffic corridors and employment centers in northern Virginia. All the traffic corridors have significant traffic congestion issues. To make matters worse, the Virginia Department of Transportation predicts that the I-66, I-95, Herndon/Dulles, VA 28, and US 1 corridors, in

¹ David Schrank and Tim Lomax, *The 2002 Urban Mobility Report*, Texas Transportation Institute, June 2002.